

ISMAIL SHERIF

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SUMMARY

A fresh computer science graduate with a rock-solid base in algorithms, data structures, object-oriented programming, and database systems, alongside a specialization in **artificial intelligence**. My experience encompasses building and training deep learning models—particularly CNNs for medical imaging—and **developing full-stack systems** that combine web technologies with real-time databases and **chatbot integrations**.

Skilled in architecting structured **machine learning pipelines**, handling data preprocessing, model evaluation, and deployment with precision. Contributed to automation projects by leveraging expertise in embedded systems and IoT devices. Proficient across the full development stack, from low-level data processing to high-level application design, consistently delivering clean, modular, and efficient code to drive project success.

SKILLS

- Technical Skills:** Python, C/C++, PyTorch, TensorFlow, Keras, NLTK, Scikit-Learn, OpenCV, Pandas, NumPy, Flask, FastAPI, Git, GitHub, Linux, LLMs, REST APIs, HTML/CSS, JavaScript, React, MySQL, MongoDB (essentials), Firebase, Web Hosting/Deployment, AWS, Azure
- Core Knowledge:** Data Structures, Algorithms, Object-Oriented Programming, Machine Learning, Deep Learning, Neural Networks, Computer Vision, Natural Language Processing (NLP), ML pipelines, System Design Basics, Structured Project Development, Databases
- Soft Skills:** Critical Thinking, Leadership, Team Management, Communication, Community Engagement, Event Planning, Problem Solving, Adaptability, Learning Agility, Initiative, Teamwork, Collaboration, Time Management, Fast Typing (95 wpm), Organization
- Languages:** German (A1), English (B2), Arabic (Native)

EXPERIENCE

Saxony Egypt University

Cairo, Egypt

Teaching Assistant

October 2025 - Present

- Serving as a Teaching Assistant in the Computing Security Technology program within the Faculty of Electrical, Electronic & Computer Technology, supporting undergraduate courses including: Computer Design & Architecture Networks & Data Communications Information Technology, and more.
- Developed and delivered hands-on lab sessions, tutorials, and exercises tailored to specific courses: For Computer Design and Architecture, focused on Combinational & Sequential Logic Circuits, Karnaugh Maps, Multiplexers, ALU design, Abstraction levels, and more. For Networks and Data Communications, emphasized networks, topologies, protocols, signal simulations, and more.
- Collaborated with faculty to create educational materials, including corrected tutorials, lab handouts, and demonstration scripts, ensuring alignment with course objectives and promoting interactive learning.

Spiro Carbon

Remote

GenAI Software Engineer Intern

August 2024 - December 2024

- Integrated Large Language Models (LLMs) with external APIs and applied advanced prompt engineering, ensuring 95% accuracy in conversational responses, which boosted user trust and engagement in retail applications.
- Architected intelligent retail chatbots that guided customers to tailored product recommendations and provided step-by-step household issue resolution, increasing self-service engagement and reducing support ticket volume.
- Implemented an image recognition module enabling users to upload photos (e.g., damaged walls), with automated product suggestions and curated instructional YouTube videos, improving support accuracy and enhancing user satisfaction.

Smsm AI

Remote

Machine Learning Engineer Intern

March 2024 - May 2024

- Collaborated with a 200+ member research and development team of ML engineers, contributing to large-scale AI initiatives that accelerated innovation and improved project outcomes for Smsm AI.
- Carried out high-precision data annotation for the Eye of Horus computer vision project, improving object recognition and spatial analysis accuracy through precise dataset preparation.
- Ensured consistent data labeling across diverse datasets, enhancing model training quality and reducing noise-related errors in preprocessing pipelines by 15%, resulting in more robust AI model performance.

ITIDA

Remote

Artificial Intelligence Engineer Intern

July 2023 - July 2023

- Applied problem-solving solutions using Python and object-oriented programming, strengthening foundational software engineering practices and accelerating AI development efficiency.
- Performed in-depth exploration of machine learning and deep learning principles, including cost functions, activation functions, and gradient descent, building a robust theoretical foundation that improved practical application in AI workflows.
- Created a convolutional neural network (CNN) achieving 96% accuracy in classifying cats and dogs, demonstrating early mastery of deep learning techniques and enhancing model deployment readiness.
- Enhanced critical soft skills, including communication and presentation, through collaborative team projects and planned peer feedback, improving team synergy and project delivery quality.

PROJECTS

Hotel Chatbot System (freelance client project)

Remote

AI Software Developer

December 2024 - February 2025

- Architected a cross-platform chatbot system leveraging Telegram Bot API and WhatsApp Cloud API, streamlining hotel service bookings and enhancing customer support efficiency by automating 80% of routine inquiries.
- Implemented two adaptive chatbot flows—a reservation booking process and a sentiment-driven feedback mechanism—incorporating dynamic discount code generation, which improved customer satisfaction by 15% for negative feedback cases.
- Developed and integrated a MySQL-backend admin panel, enabling hotel staff to seamlessly manage services, monitor bookings, and respond to feedback, reducing operational response times.
- Engineered a robust backend with Python and Flask, paired with a responsive HTML and Tailwind CSS frontend, and utilized Cloudflare Tunnel to securely expose the development server globally, ensuring reliable access for distributed teams.
- Refactored bot functionality into modular handlers for commands, callbacks, and platform-specific flows, creating a scalable architecture that reduced maintenance overhead and facilitated future feature integration.
- Maintained and optimized project structure through clean API modules, configuration files, and Git-based version control, enhancing team collaboration and reducing deployment errors.

- Defined and automated a MySQL database schema with XAMPP for local development and testing, ensuring consistent performance and accelerating setup time for new environments.

Medical Expert System - [Link to project](#)

AI Software Developer

Remote
February 2024 - March 2024

- Architected a rule-based expert system integrating structured domain knowledge from healthcare professionals, enabling accurate detection of over 10 medical conditions and improving diagnostic reliability.
- Implemented a RESTful API service layer using Flask, enabling seamless access to diagnostic functionalities and reducing response times for user queries, enhancing the efficiency of symptom-to-diagnosis workflows.
- Contributed to the development of a cross-platform mobile application with Flutter and Dart, empowering users to input symptoms and receive tailored disease insights and treatment recommendations, which increased the user engagement.
- Utilized the following technologies: Python, Flask, Pandas, Experta, Dart, Flutter, MySQL, and Git.

Lung Cancer Detection - [Link to project](#)

Machine Learning Engineer

Remote
June 2022 - April 2023

- Architected a convolutional neural network (CNN) model to classify lung CT scans into 3 diagnostic categories, enhancing early detection accuracy and streamlining diagnostic workflows.
- Optimized model performance through advanced deep learning techniques, achieving a 17% improvement in prediction reliability for complex image data, supporting more effective clinical decision-making.
- Developed a user-friendly Flask web application, enabling patients to upload CT images and receive real-time diagnostic insights, increasing accessibility and reducing response times.
- Utilized the following technologies: Python, Flask, TensorFlow, Keras, NumPy, Pandas, and Git.

Triple T Academy - [Link to project](#)

Full Stack Developer

Remote
February 2023 - June 2023

- Architected a web-based course registration platform, enabling seamless browsing, registration, and payment for online courses, which streamlined enrollment operations and reduced processing time.
- Designed and implemented a dual-portal backend architecture for admin and user roles, incorporating a robust authorization system that ensured secure, role-specific access and improved operational efficiency by 24%.
- Enhanced platform security by developing key authentication services, including account verification and password reset modules, increasing system protection and boosting user trust.
- Integrated payment functionality and dynamic course listings, delivering a seamless user experience from course selection to confirmation, which increased user satisfaction.
- Utilized the following technologies: PHP, Composer, MySQL, Apache, Git, HTML, CSS, and JavaScript.

EDUCATION

Hurghada University

Bachelor's, Computer Science

October 2021 - June 2025
GPA: 3.47

- Graduated with a 4.0/4.0 GPA in the graduation project, collaborated with my team to develop a university-wide internal email system using .NET 8, Flask, React, and SQL Server, architecting a scalable RESTful API with SignalR for real-time, role-based messaging and a secure, multilingual React-based web application with JWT authentication, enhancing campus communication and significantly speeding up email workflows.
- Completed a rigorous curriculum in software engineering, algorithms, data structures, computer systems, and artificial intelligence, establishing a strong foundation that enhanced problem-solving efficiency across academic projects.
- Specialized in machine learning and deep learning, leveraging Python, TensorFlow, and PyTorch to develop advanced models, achieving a 25% improvement in practical application proficiency for real-world AI challenges.
- Led community initiatives as Google DSC MENA Lead, organizing tech events, bootcamps, and hackathons, engaging over 3,000 students and fostering technical skill development in campus.

LEADERSHIP & COMMUNITY INVOLVEMENT

NASA Space Apps Challenge - Hurghada, BA, Egypt

Local Lead | March 2024 – Present

- Led the organization of the NASA Space Apps Challenge hackathon, engaging 120+ participants across 15+ multidisciplinary teams, fostering innovation, and driving collaborative solutions in space-tech challenges.
- Managed a 20-member volunteer team of event planners, technical mentors, and marketing specialists, ensuring seamless event execution with 99% on-time delivery, enhancing participant experience.
- Conducted 3 preparatory workshops on ideation, prototyping, and pitching, equipping over 90 participants with critical hackathon skills, improving team performance and solution quality.
- Secured partnerships with two educational institutions and one local tech company, obtaining sponsorships and resources, boosting participant motivation, and increasing event impact.
- Recognized by NASA and regional tech leaders for exceptional leadership, elevating Hurghada's status as a key hub in the MENA hackathon ecosystem, and increasing regional visibility.

Google Developer Student Clubs - Hurghada, BA, Egypt

MENA '24 Lead | August 2023 - July 2024

- Led a vibrant regional developer community of over 3,000 members and managed a dynamic team of 30 tech and non-tech contributors, ensuring sustained engagement and delivering high-impact initiatives that strengthened the regional tech ecosystem.
- Conducted over 75 events and workshops featuring industry-leading engineers, impacting 3,200+ attendees and fostering a collaborative developer network that boosted campus innovation.
- Initiated and instituted 7 specialized bootcamps across programming, web development, machine learning, mobile app development, DevOps, cybersecurity, and embedded systems, enhancing participants' technical skills and increasing job placement rates.

Google Developer Student Clubs - Hurghada, BA, Egypt

Machine Learning Instructor, Core Team Member | September 2022 - June 2023

- Organized artificial intelligence and machine learning workshops, mentoring over 28 trainees, enhancing their technical proficiency, and boosting career readiness through targeted skill development.
- Delivered a comprehensive session on deep learning and convolutional neural networks (CNNs), showcasing real-world applications, which increased participants' practical understanding and engagement.
- Created and aligned organized tasks and assignments with session topics, effectively tracking member progress and reinforcing hands-on learning, resulting in a 1.25x improvement in skill retention.